

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A fuel cell having at least a membrane electrode assembly comprising:

an electrolyte membrane;

a hydrogen electrode-side catalyst layer formed on one side thereof; and

an air electrode-side catalyst layer formed on the other side thereof,

wherein a porosity of the hydrogen electrode-side catalyst layer is ~~made to be~~ lower than a porosity of the air electrode-side catalyst ~~layer and layer~~, a volume of pore space of the hydrogen electrode-side catalyst layer has a range of 1.0% to 3.0% of a total volume of the catalyst layer, and a volume of pore space of the air electrode-side catalyst layer has a range of 3% to 30% of the total volume of the catalyst layer.

2. (Currently Amended) The fuel cell according to claim 1, wherein the hydrogen electrode-side catalyst layer and the air electrode-side catalyst layer each include ion-exchange resin and carbon carrier and a weight ratio of ion-exchange resin to carbon carrier of the hydrogen electrode-side catalyst layer is ~~made to be larger than a~~ than a weight ratio of ion-exchange resin to carbon carrier of the air electrode-side catalyst layer ~~so that,~~ and the porosity of the hydrogen electrode-side catalyst layer is ~~made to be~~ lower than the porosity of the air electrode-side catalyst layer.

3. (Previously Presented) The fuel cell according to claim 2, wherein the weight ratio of ion-exchange resin to carbon carrier of the hydrogen electrode-side catalyst layer is greater than or equal to 1.5:1 and less than 3.0:1 and the weight ratio of ion-exchange resin to carbon carrier of the air electrode-side catalyst layer is greater than or equal to 0.4:1 and less than 1.5:1.

4. (Currently Amended) The fuel cell according to claim 2, wherein the volume of pore space of the hydrogen electrode-side catalyst layer is 2% of the total volume of the catalyst layer and the volume of the pore space of the air electrode-side catalyst layer has a range of 3% to 30% of the total volume of the catalyst layer.

5. (Currently Amended) ~~A fuel cell having at least a membrane electrode assembly comprising:~~

~~_____an electrolyte membrane; and~~

~~_____a hydrogen electrode-side catalyst layer formed on one side thereof, and an air electrode-side catalyst layer formed on the other side thereof;~~

~~_____wherein a porosity of the hydrogen electrode-side catalyst layer is made to be lower than a porosity of the air electrode-side catalyst layer; The fuel cell according to claim~~

1,

~~_____wherein the hydrogen electrode-side catalyst layer contains an additive having a particle diameter sized to fill a plurality of voids in a carbon carrier included in the an average particle diameter less than or equal to 0.3 μ m and the porosity of the hydrogen electrode-side catalyst layer so as to lower is lower than the porosity of the hydrogen-air electrode-side catalyst layer; and~~

~~_____wherein a volume of pore space of the hydrogen electrode-side catalyst layer has a range of 1.0% to 3.0% of a total volume of the catalyst layer.~~

6. (Currently Amended) The fuel cell according to claim 5, wherein ~~the average particle diameter of the additive is less than or equal to 0.3 μ m~~ selected from titanium oxide, zinc oxide, and cerium oxide.

7. (Canceled)

8. (Currently Amended) ~~A fuel cell having at least a membrane electrode assembly comprising:~~

~~_____ an electrolyte membrane;~~

~~_____ a sprayed hydrogen electrode-side catalyst layer formed on one side thereof;~~

and

~~_____ a non-sprayed air electrode-side catalyst layer formed on the other side thereof;~~

~~_____ wherein a porosity of the hydrogen electrode-side catalyst layer is made to be~~

~~lower than a porosity that of the air electrode-side catalyst layer;~~ The fuel cell according to

claim 1,

~~_____ wherein the hydrogen electrode-side catalyst layer is formed by spraying a~~

~~catalyst ink and the air electrode-side catalyst layer is formed by a transfer method so that,~~

and the porosity of the hydrogen electrode-side catalyst layer is made to be lower than that the

porosity of the air electrode-side catalyst layer; and

~~_____ wherein a volume of pore space of the hydrogen electrode-side catalyst layer~~

~~has a range of 1.0% to 3.0% of a total volume of the catalyst layer.~~

9. (Previously Presented) The fuel cell according to claim 2, wherein the volume of pore space of the hydrogen electrode-side catalyst layer is 2% of the total volume of the catalyst layer and a volume of pore space of the air electrode-side catalyst layer is 30% of the total volume of the catalyst layer.